

CLAIMS:

1. A webbing tie down assembly, comprising:
an inner frame (305) and an outer frame (303), the inner frame and the outer frame being arranged to support webbing (315) therein and including a clamping mechanism comprising: a first clamping member (309) supported by the inner frame (305) and having a first clamping surface (320), and a second clamping member (307) supported by the outer frame (303) and having a second clamping surface, the inner frame (305) being mounted with respect to the outer frame (303) for movement between a first position in which the first and second clamping surfaces are substantially together for clamping webbing (315) therebetween, and a second position in which the clamping surfaces are apart for allowing webbing (315) to slide therethrough; and further including a tensioning mechanism (311), for disengaging the first and second clamping surfaces when the inner frame and outer frame are in the first position to permit the webbing (315) to slide therebetween to enable tensioning of the webbing (315),

characterized in that one (307) of the first and second clamping members comprises a shaft, and the clamping surface (320) of the other (309) clamping member has a complementary curvature, so that the clamping surfaces of the first (309) and second (307) clamping members lie substantially parallel in the first position so that a clamping force on the webbing (315) is distributed over a relatively large surface area of the webbing.

2. A webbing tie down assembly as claimed in claim 1, in which at least one (309) of the first and second clamping members has a supporting surface (309a), substantially opposite the clamping surface (320), the supporting surface (309a) being arranged to support the webbing (315).

3. A webbing tie down assembly as claimed in claim 2, in which the or each supporting surface (309a) is smoothly curved to allow the webbing (315) to slide thereon.

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4. A webbing tie down assembly as claimed in claim 1, 2 or 3, wherein the shaft (307) is cylindrical.

5. A webbing tie down assembly as claimed in claim 2 or claim 3, wherein the supporting surface (309a) is provided on the other (309) clamping member for supporting webbing (315) wrapped therearound, the supporting surface (309a) being configured to prevent undue tension on webbing (315) supported thereby.

6. A webbing tie down assembly as claimed in claim 5, wherein the inner frame comprises a first pair of substantially parallel inner plates (305), and the other frame comprises a second pair of substantially parallel outer plates (303), the assembly further comprising a roller shaft (307), wherein the first pair of substantially parallel inner plates (305) is mounted on the roller shaft (307) to pivot between the first and second positions, and wherein in the first position, the inner plates (305) of the first frame lie between the outer plates (303) of the second frame, and wherein the supporting surface (309a) extends within the boundary of the inner plates (305) in the first position.

7. A webbing tie down assembly as claimed in claim 6, further comprising a latching mechanism (317, 327), for securing the inner plates (305) with respect to the outer plates (303) in the first position.

8. A webbing tie down assembly as claimed in claim 7, wherein the first pair of substantially parallel inner plates (305) are linked together by a handle (306) for movement between the first and second positions.

9. A webbing tie down assembly as claimed in claim 7 or claim 8, in which the tensioning mechanism includes a pair of slots (311) in respective ones of either the first pair of substantially parallel inner plates or the second pair of substantially parallel outer plates, the roller shaft (307) extending through the pair of slots and being rigidly mounted

to the other of the first pair of substantially parallel inner plates or the second pair of substantially parallel outer plates, so that the first frame can be displaced relative to the second frame along the length of the slots (311).

10. A webbing tie down assembly as claimed in claim 9, in which the slots (311) are curved.

11. A webbing tie down assembly as claimed in claim 9 or claim 10, in which the roller shaft (307) forms one of the first and second clamping members and the other of the first and second clamping members is rigidly secured between the parallel plates of the frame carrying the slots (311).

12. A webbing tie down assembly as claimed in any preceding claim, in which the assembly has a first end and a second end, the first end carrying a hook (301) mounted to the first or second frame for attachment to an object to be tied down, the hook (301) secured to the first or second frame at a pair of securing points.

13. A webbing tie down assembly as claimed in claim 12, in which webbing (315) enters and exits the assembly at the second end thereof, the webbing (315) being wrapped around at least one supporting surface and between the clamping surfaces of the first and second clamping members.

14. A webbing tie down assembly as claimed in claim 13, in which the at least one supporting surface includes one or more pulley shafts arranged within the assembly to distribute the load of the webbing (315) whilst spacing apart the surfaces thereof.

15. A webbing tie down assembly as claimed in claim 13 or claim 14, in which the supporting surface (309a) adjacent the second end of the assembly has a minimum radius of curvature of 6.35mm.

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